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<120> TRANSGENIC ANIMALS AS URINARY BIOREACTORS FOR THE PRODUCTION OF POLYPEPTIDE IN THE URINE, RECOMBINANT DNA CONSTRUCT FOR KIDNEY-SPECIFIC EXPRESSION, AND METHOD OF USING SAME

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<210> 28
<211> 23
<212> DNA
<213> Goat Uromodulin

<400> 28
gactgagtac tggcgcagca cag 23

<210> 29
<211> 22
<212> DNA
<213> Goat Uromodulin

<400> 29
gattgcactc agggggctct gt 22

<210> 30
<211> 28
<212> DNA
<213> Goat Uromodulin

<400> 30
gtaccagccg cccagactga catcacag 28

<210> 31
<211> 28
<212> DNA
<213> Goat Uromodulin

<400> 31
caggttgtac acgtagtagc cgccggca 28

<210> 32
<211> 27
<212> DNA
<213> Goat Uromodulin

<400> 32
aagatttacc agcccgggcc gtcgacc 27

<210> 33
<211> 27
<212> DNA
<213> Goat Uromodulin

<400> 33
aataaagtgc cagggcaggg gggctta 27

<210> 34
<211> 27
<212> DNA
<213> Goat Uromodulin

<400> 34
cttgtgtggt tgagtgtgtt cttgacc 27

<210> 35
<211> 27
<212> DNA
<213> Goat Uromodulin

<400> 35
tgtgaaaggg gatgtctttg ggtacca 27

<210> 36
<211> 27
<212> DNA
<213> Goat Uromodulin

<400> 36
acagcaatgt gcaacccaat ggaaggg 27

<210> 37
<211> 1630
<212> DNA
<213> Goat Uromodulin

<400> 37
actatagggc acgcgtggtc gacggcccgg gctggtaaag acacccagac ttaggttttg 60

acagagcctc atgttcacca accagaaatg acattcacca cctaggattg agaaaaagaa 120

tattaggaac ttttattttc ttctgaagtt atagcaaaga aaggggaaaa aaaaaaacat 180

tcttatgggg gataaacggg caaaggatac aaacagttca gaaaagaata aatagtaagc 240

aaatgaaaag ataacttcct ttttcatcaa agaaccgcaa aagtaaataa tgataagatg 300

tttctcactt ttccacaaag atgaaagtta atgcccaggg tggctgagta ctgtgctggg 360

attgtgaact aactgttata gatctctctg gggtgctgtt tgggaagaaa catcgctgaa 420

aactgagcta cctcttttcc tatgaaattc ccctgaggag gtgagtgagc cgctgctgat 480

cgtcacccga gcactaggcc agacagaagg agaaagccct caaagaggca atgctgtgga 540

tcactgtcat atttcctgct cagcctgagt tcacatgtgc ctgatttttc tcaatatggc 600

attgccatta acgtggaatt aggtcaggag acctaaggct gaaccaagcc ctgtcattct 660

ctgccccatg actgcgcatc accaaaacag catcggcagt gacttccaca gatggtacca 720

ttgctatatg ccttaacttg catcatctcc tttaatggcc ataacaattc taggacacgg 780

gtattcttgt tttacagatg atgaaaatta cctctggaag gaaaattact ggcacacaaa 840

aaacgctgac caggattcag atagactgac tccaaagtca gtctgttcat ctacaaaatt 900

atctacttct caaggacctt ccttcatggg aattcaaatt tcttgattca cagagcatct 960

ggtccaatga tgtctgaatt atctgctgtc tctgaccttc agccattctc agctcctttc 1020

ctgatcacat tgggacccca ggggagctgg ctgaatctgt gaggatggca tttgctttgg 1080

aattaagtgg ccacaagtac acatcctggt ggggacgatg agcacccctt ttctcctgga 1140

gcagcctggc ttcagattct ggcctctgct tggctccact ttgtgctttt caatgaccaa 1200

gaaaatccca ggcccttgga attgtttact cagttaattt ctaactaaag aacctcttgt 1260

tgccaaaagg tataaaacag agcccttgta gctgtgggca cagctgtgac ccccatgtca 1320

atcatttggg gtctctacct attagggaaa agaacaacaa ccacctcaca gcctagaaaa 1380

ggaaaacact gtgtcaaaag ggaaaaatat tccaccccca ttaaaataat taagaaacag 1440

aaccagagga tcattggagg agagattgcc agtgggggac agatgtatat atatagatat 1500

gaaagtcacc tacttgtaaa aggattaatt ctacctttct ggtttcaggt aaggctatct 1560

gcagctctca cttctcctag ccacttctcc catctagtct ttgctggctc ccattctgtt 1620

tgaaggatgg 1630

<210> 38
<211> 644
<212> PRT
<213> Rat Uromodulin

<400> 38

```
Met Gly Gln Leu Leu Ser Leu Thr Trp Leu Leu Leu Val Met Val Val
1               5                  10                  15

Thr Pro Trp Phe Thr Val Ala Gly Ala Asn Asp Ser Pro Glu Ala Arg
            20                  25                  30

Arg Cys Ser Glu Cys His Asp Asn Ala Thr Cys Val Leu Asp Gly Val
        35                  40                  45

Val Thr Thr Cys Ser Cys Gln Ala Gly Phe Thr Gly Asp Gly Leu Val
    50                  55                  60

Cys Glu Asp Ile Asp Glu Cys Ala Thr Pro Trp Thr His Asn Cys Ser
65                  70                  75                  80

Asn Ser Ile Cys Met Asn Thr Leu Gly Ser Tyr Glu Cys Ser Cys Gln
                85                  90                  95

Asp Gly Phe Arg Leu Thr Pro Gly Leu Gly Cys Ile Asp Val Asn Glu
            100                 105                 110

Cys Thr Glu Gln Gly Leu Ser Asn Cys His Ser Leu Ala Thr Cys Val
        115                 120                 125

Asn Thr Glu Gly Ser Tyr Ser Cys Val Cys Pro Lys Gly Tyr Arg Gly
    130                 135                 140

Asp Gly Trp Tyr Cys Glu Cys Ser Pro Gly Phe Cys Glu Pro Gly Leu
145                 150                 155                 160

Asp Cys Leu Pro Gln Gly Pro Ser Gly Lys Leu Val Cys Gln Asp Pro
                165                 170                 175

Cys Asn Val Tyr Glu Thr Leu Thr Glu Tyr Trp Arg Ser Thr Asp Tyr
            180                 185                 190

Gly Ala Gly Tyr Ser Cys Asp Ser Asp Met His Gly Trp Tyr Arg Phe
        195                 200                 205

Thr Gly Gln Gly Gly Val Arg Met Ala Glu Thr Cys Val Pro Val Leu
    210                 215                 220
```

```
Arg Cys Asn Thr Ala Ala Pro Met Trp Leu Asn Gly Ser His Pro Ser
225                 230                 235                 240

Ser Arg Glu Gly Ile Val Ser Arg Thr Ala Cys Ala His Trp Ser Asp
                245                 250                 255

His Cys Cys Leu Trp Ser Thr Glu Ile Gln Val Lys Ala Cys Pro Gly
            260                 265                 270

Gly Phe Tyr Val Tyr Asn Leu Thr Glu Pro Pro Glu Cys Asn Leu Ala
        275                 280                 285

Tyr Cys Thr Asp Pro Ser Ser Val Glu Gly Thr Cys Glu Glu Cys Gly
    290                 295                 300

Val Asp Glu Asp Cys Val Ser Asp Asn Gly Arg Trp Arg Cys Gln Cys
305                 310                 315                 320

Lys Gln Asp Phe Asn Val Thr Asp Val Ser Leu Leu Glu His Arg Leu
                325                 330                 335

Glu Cys Glu Ala Asn Glu Ile Lys Ile Ser Leu Ser Lys Cys Gln Leu
            340                 345                 350

Gln Ser Leu Gly Phe Met Lys Val Phe Met Tyr Leu Asn Asp Arg Gln
        355                 360                 365

Cys Ser Gly Phe Ser Glu Arg Gly Glu Arg Asp Trp Met Ser Ile Val
    370                 375                 380

Thr Pro Ala Arg Asp Gly Pro Cys Gly Thr Val Leu Arg Arg Asn Glu
385                 390                 395                 400

Thr His Ala Thr Tyr Ser Asn Thr Leu Tyr Leu Ala Ser Glu Ile Ile
                405                 410                 415

Ile Arg Asp Ile Asn Ile Arg Ile Asn Phe Glu Cys Ser Tyr Pro Leu
            420                 425                 430

Asp Met Lys Val Ser Leu Lys Thr Ser Leu Gln Pro Met Val Ser Ala
        435                 440                 445

Leu Asn Ile Ser Leu Gly Gly Thr Gly Lys Phe Thr Val Gln Met Ala
    450                 455                 460

Leu Phe Gln Asn Pro Thr Tyr Thr Gln Pro Tyr Gln Gly Pro Ser Val
465                 470                 475                 480
```

Met Leu Ser Thr Glu Ala Phe Leu Tyr Val Gly Thr Met Leu Asp Gly
485 490 495

Gly Asp Leu Ser Arg Phe Val Leu Leu Met Thr Asn Cys Tyr Ala Thr
500 505 510

Pro Ser Ser Asn Ser Thr Asp Pro Val Lys Tyr Phe Ile Ile Gln Asp
515 520 525

Arg Cys Pro His Thr Glu Asp Thr Thr Ile Gln Val Thr Glu Asn Gly
530 535 540

Glu Ser Ser Gln Ala Arg Phe Ser Ile Gln Met Phe Arg Phe Ala Gly
545 550 555 560

Asn Ser Asp Leu Val Tyr Leu His Cys Glu Val Tyr Leu Cys Asp Thr
565 570 575

Met Ser Glu Gln Cys Lys Pro Thr Cys Ser Gly Thr Arg Tyr Arg Ser
580 585 590

Gly Asn Phe Ile Asp Gln Thr Arg Val Leu Asn Leu Gly Pro Ile Thr
595 600 605

Arg Gln Gly Val Gln Ala Ser Val Ser Lys Ala Ala Ser Ser Asn Leu
610 615 620

Gly Phe Leu Ser Ile Trp Leu Leu Leu Phe Leu Ser Ala Thr Leu Thr
625 630 635 640

Leu Met Val His

<210> 39
<211> 642
<212> PRT
<213> Mouse Uromodulin

<400> 39

Met Gly Ile Pro Leu Thr Trp Met Leu Leu Val Met Met Val Thr Ser
1 5 10 15

Trp Phe Thr Leu Ala Gly Ala Ser Asn Ser Thr Glu Ala Arg Arg Cys
20 25 30

Ser Glu Cys His Asn Asn Ala Thr Cys Thr Val Asp Gly Val Val Thr
35 40 45

Thr Cys Ser Cys Gln Thr Gly Phe Thr Gly Asp Gly Leu Val Cys Glu
50 55 60

Asp Met Asp Glu Cys Ala Thr Pro Trp Thr His Asn Cys Ser Asn Ser
65 70 75 80

Ser Cys Val Asn Thr Pro Gly Ser Phe Lys Cys Ser Cys Gln Asp Gly
85 90 95

Phe Arg Leu Thr Pro Gly Leu Gly Cys Thr Asp Val Asp Glu Cys Ser
100 105 110

Glu Gln Gly Leu Ser Asn Cys His Ala Leu Ala Thr Cys Val Asn Thr
115 120 125

Glu Gly Asp Tyr Leu Cys Val Cys Pro Lys Gly Phe Thr Gly Asp Gly
130 135 140

Trp Tyr Cys Glu Cys Ser Pro Ser Ser Cys Glu Pro Gly Leu Asp Cys
145 150 155 160

Leu Pro Gln Gly Pro Asp Gly Lys Leu Val Cys Gln Asp Pro Cys Asn
165 170 175

Thr Tyr Glu Thr Leu Thr Glu Tyr Trp Arg Ser Thr Glu Tyr Gly Val
180 185 190

Gly Tyr Ser Cys Asp Ala Gly Gln His Gly Trp Tyr Arg Phe Thr Gly
195 200 205

Gln Gly Gly Val Arg Met Ala Glu Thr Cys Val Pro Val Leu Ala Cys
210 215 220

Asn Thr Ala Ala Pro Met Trp Leu Asn Gly Ser His Pro Ser Ser Ser
225 230 235 240

Glu Gly Ile Val Ser Arg Thr Ala Cys Ala His Trp Ser Asp His Cys
245 250 255

Cys Arg Trp Ser Thr Glu Ile Gln Val Lys Ala Cys Pro Gly Gly Phe
260 265 270

Tyr Ile Tyr Asn Leu Thr Glu Pro Pro Glu Cys Asn Leu Ala Tyr Cys
275 280 285

Thr Asp Pro Ser Ser Val Glu Gly Thr Cys Glu Glu Cys Arg Val Asp

290 295 300

Glu Asp Cys Ile Ser Asp Asn Gly Arg Trp Arg Cys Gln Cys Lys Gln
305 310 315 320

Asp Ser Asn Ile Thr Asp Val Ser Gln Leu Glu Tyr Arg Leu Glu Cys
325 330 335

Gly Ala Asn Asp Ile Lys Met Ser Leu Arg Lys Cys Gln Leu Gln Ser
340 345 350

Leu Gly Phe Met Asn Val Phe Met Tyr Leu Asn Asp Arg Gln Cys Ser
355 360 365

Gly Phe Ser Glu Ser Asp Glu Arg Asp Trp Met Ser Ile Val Thr Pro
370 375 380

Ala Arg Asn Gly Pro Cys Gly Thr Val Leu Arg Arg Asn Glu Thr His
385 390 395 400

Ala Thr Tyr Ser Asn Thr Leu Tyr Leu Ala Asn Ala Ile Ile Ile Arg
405 410 415

Asp Ile Ile Ile Arg Met Asn Phe Glu Cys Ser Tyr Pro Leu Asp Met
420 425 430

Lys Val Ser Leu Lys Thr Ser Leu Gln Pro Met Val Ser Ala Leu Asn
435 440 445

Ile Ser Leu Gly Gly Thr Gly Lys Phe Thr Val Arg Met Ala Leu Phe
450 455 460

Gln Ser Pro Thr Tyr Thr Gln Pro Tyr Gln Gly Pro Ser Val Met Leu
465 470 475 480

Ser Thr Glu Ala Phe Leu Tyr Val Gly Thr Met Leu Asp Gly Gly Asp
485 490 495

Leu Ser Arg Phe Val Leu Leu Met Thr Asn Cys Tyr Ala Thr Pro Ser
500 505 510

Ser Asn Ser Thr Asp Pro Val Lys Tyr Phe Ile Ile Gln Asp Ser Cys
515 520 525

Pro Arg Thr Glu Asp Thr Thr Ile Gln Val Thr Glu Asn Gly Glu Ser
530 535 540

```
Ser Gln Ala Arg Phe Ser Val Gln Met Phe Arg Phe Ala Gly Asn Tyr
545                 550                 555                 560

Asp Leu Val Tyr Leu His Cys Glu Val Tyr Leu Cys Asp Ser Thr Ser
                565                 570                 575

Glu Gln Cys Lys Pro Thr Cys Ser Gly Thr Arg Phe Arg Cys Gly Asn
            580                 585                 590

Phe Ile Asp Gln Thr Arg Val Leu Asn Leu Gly Pro Ile Thr Arg Gln
        595                 600                 605

Gly Val Gln Ala Ser Val Ser Lys Ala Ala Ser Ser Asn Leu Arg Leu
    610                 615                 620

Leu Ser Ile Trp Leu Leu Leu Phe Leu Ser Ala Thr Leu Ile Phe Met
625                 630                 635                 640

Val Gln
```

<210> 40
<211> 640
<212> PRT
<213> Human Uromodulin

<400> 40

```
Met Gly Gln Pro Ser Leu Thr Trp Met Leu Met Val Val Val Ala Ser
1               5                   10                  15

Trp Phe Ile Thr Thr Ala Ala Thr Asp Thr Ser Glu Ala Arg Trp Cys
            20                  25                  30

Ser Glu Cys His Ser Asn Ala Thr Cys Thr Glu Asp Glu Ala Val Thr
        35                  40                  45

Thr Cys Thr Cys Gln Glu Gly Phe Thr Gly Asp Gly Leu Thr Cys Val
    50                  55                  60

Asp Leu Asp Glu Cys Ala Ile Pro Gly Ala His Asn Cys Ser Ala Asn
65                  70                  75                  80

Ser Ser Cys Val Asn Thr Pro Gly Ser Phe Ser Cys Val Cys Pro Glu
                85                  90                  95

Gly Phe Arg Leu Ser Pro Gly Leu Gly Cys Thr Asp Val Asp Glu Cys
            100                 105                 110
```

```
Ala Glu Pro Gly Leu Ser His Cys His Ala Leu Ala Thr Cys Val Asn
        115                 120                 125

Val Val Gly Ser Tyr Leu Cys Val Cys Pro Ala Gly Tyr Arg Gly Asp
    130                 135                 140

Gly Trp His Cys Glu Cys Ser Pro Gly Ser Cys Gly Pro Gly Leu Asp
145                 150                 155                 160

Cys Val Pro Glu Gly Asp Ala Leu Val Cys Ala Asp Pro Cys Gln Ala
                165                 170                 175

His Arg Thr Leu Asp Glu Tyr Trp Arg Ser Thr Glu Tyr Gly Glu Gly
            180                 185                 190

Tyr Ala Cys Asp Thr Asp Leu Arg Gly Trp Tyr Arg Phe Val Gly Gln
        195                 200                 205

Gly Gly Ala Arg Met Ala Glu Thr Cys Val Pro Val Leu Arg Cys Asn
    210                 215                 220

Thr Ala Ala Pro Met Trp Leu Asn Gly Thr His Pro Ser Ser Asp Glu
225                 230                 235                 240

Gly Ile Val Ser Arg Lys Ala Cys Ala His Trp Ser Gly His Cys Cys
                245                 250                 255

Leu Trp Asp Ala Ser Val Gln Val Lys Ala Cys Ala Gly Gly Tyr Tyr
            260                 265                 270

Val Tyr Asn Leu Thr Ala Pro Pro Glu Cys His Leu Ala Tyr Cys Thr
        275                 280                 285

Asp Pro Ser Ser Val Glu Gly Thr Cys Glu Glu Cys Ser Ile Asp Glu
    290                 295                 300

Asp Cys Lys Ser Asn Asn Gly Arg Trp His Cys Gln Cys Lys Gln Asp
305                 310                 315                 320

Phe Asn Ile Thr Asp Ile Ser Leu Leu Glu His Arg Leu Glu Cys Gly
                325                 330                 335

Ala Asn Asp Met Lys Val Ser Leu Gly Lys Cys Gln Leu Lys Ser Leu
            340                 345                 350

Gly Phe Asp Lys Val Phe Met Tyr Leu Ser Asp Ser Arg Cys Ser Gly
        355                 360                 365
```

```
Phe Asn Asp Arg Asp Asn Arg Asp Trp Val Ser Val Val Thr Pro Ala
    370                 375                 380

Arg Asp Gly Pro Cys Gly Thr Val Leu Thr Arg Asn Glu Thr His Ala
385                 390                 395                 400

Thr Tyr Ser Asn Thr Leu Tyr Leu Ala Asp Glu Ile Ile Ile Arg Asp
                405                 410                 415

Leu Asn Ile Lys Ile Asn Phe Ala Cys Ser Tyr Pro Leu Asp Met Lys
            420                 425                 430

Val Ser Leu Lys Thr Ala Leu Gln Pro Met Val Ser Ala Leu Asn Ile
        435                 440                 445

Arg Val Gly Gly Thr Gly Met Phe Thr Val Arg Met Ala Leu Phe Gln
    450                 455                 460

Thr Pro Ser Tyr Thr Gln Pro Tyr Gln Gly Ser Ser Val Thr Leu Ser
465                 470                 475                 480

Thr Glu Ala Phe Leu Tyr Val Gly Thr Met Leu Asp Gly Gly Asp Leu
                485                 490                 495

Ser Arg Phe Ala Leu Leu Met Thr Asn Cys Tyr Ala Thr Pro Ser Ser
            500                 505                 510

Asn Ala Thr Asp Pro Leu Lys Tyr Phe Ile Ile Gln Asp Arg Cys Pro
        515                 520                 525

His Thr Arg Asp Ser Thr Ile Gln Val Val Glu Asn Gly Glu Ser Ser
    530                 535                 540

Gln Gly Arg Phe Ser Val Gln Met Phe Arg Phe Ala Gly Asn Tyr Asp
545                 550                 555                 560

Leu Val Tyr Leu His Cys Glu Val Tyr Leu Cys Asp Thr Met Asn Glu
                565                 570                 575

Lys Cys Lys Pro Thr Cys Ser Gly Thr Arg Phe Arg Ser Gly Ser Val
            580                 585                 590

Ile Asp Gln Ser Arg Val Leu Asn Leu Gly Pro Ile Thr Arg Lys Gly
        595                 600                 605

Val Gln Ala Thr Val Ser Arg Ala Phe Ser Ser Leu Gly Leu Leu Lys
    610                 615                 620
```

```
Val Trp Leu Pro Leu Leu Leu Ser Ala Thr Leu Thr Leu Thr Phe Gln
625                 630                 635                 640


<210>  41
<211>  459
<212>  PRT
<213>  Bovine Uromodulin

<400>  41

Met Lys Cys Ser Asn Met Trp Met Ala Ala Val Val Thr Ser Trp Val
1               5                   10                  15

Ala Ala Thr Asp Thr Ser Ser Ala Lys Ser Cys Ser Cys His Ser Asn
            20                  25                  30

Ala Thr Cys Thr Val Asp Gly Ala Ala Thr Thr Cys Ala Cys Gly Thr
        35                  40                  45

Gly Asp Gly Cys Val Asp Asp Cys Ala Val Gly Ala His Asn Cys Ser
    50                  55                  60

Ala Thr Lys Ser Cys Val Asn Thr Gly Ser Tyr Thr Cys Val Cys Gly
65                  70                  75                  80

Ser Ser Gly Cys Asp Val Asp Cys Ala Gly Ser Arg Cys His Ala Ala
                85                  90                  95

Thr Cys Asn Gly Gly Asn Tyr Ser Cys Val Cys Ala Gly Tyr Gly Asp
            100                 105                 110

Gly Arg His Cys Cys Ser Gly Ser Cys Gly Gly Asp Cys Val Arg Gly
        115                 120                 125

Asp Ala Val Cys Val Asp Cys Val His Arg Asp Tyr Trp Arg Ser Thr
    130                 135                 140

Tyr Gly Ser Gly Tyr Cys Asp Val Ser Gly Gly Trp Tyr Arg Val Gly
145                 150                 155                 160

Ala Gly Val Arg Thr Cys Val Val His Cys Asn Thr Ala Ala Met Trp
                165                 170                 175

Asn Gly Thr His Ser Ser Asp Gly Val Asn Arg Val Ala Cys Ala His
            180                 185                 190

Trp Ser Gly Asp Cys Cys Trp Asp Ala Val Lys Ala Cys Ala Gly Gly
        195                 200                 205
```

```
Tyr Tyr Val Tyr Asn Thr Ala Cys His Ala Tyr Cys Thr Asp Ser Ser
    210                 215                 220

Val Gly Thr Cys Cys Arg Val Asp Asp Cys Lys Ser Asp Asn Gly Trp
225                 230                 235                 240

His Cys Cys Lys Asp Asn Val Thr Asp Ser Arg Arg Cys Gly Val Asp
                245                 250                 255

Asp Lys Ser Ser Lys Cys Lys Ser Gly Lys Val Met Tyr His Asp Ser
            260                 265                 270

Cys Ser Gly Thr Arg Gly Asp Arg Asp Trp Met Ser Val Val Thr Ala
        275                 280                 285

Arg Asp Gly Cys Gly Thr Val Met Thr Arg Asn Thr His Ala Thr Tyr
    290                 295                 300

Ser Asn Thr Tyr Ala Asp Arg Asp Asn Arg Asn Ala Cys Ser Tyr Asp
305                 310                 315                 320

Met Lys Val Ser Lys Thr Ser Met Val Ser Ala Asn Ser Met Gly Gly
                325                 330                 335

Thr Gly Thr Thr Val Arg Met Ala Ser Ala Tyr Thr Tyr Gly Ser Ser
            340                 345                 350

Val Thr Ser Thr Ala Tyr Val Gly Thr Met Asp Gly Gly Asp Ser Arg
        355                 360                 365

Val Met Thr Asn Cys Tyr Ala Thr Ser Ser Asn Ala Thr Asp Lys Tyr
    370                 375                 380

Asp Arg Cys Arg Ala Ala Asp Ser Thr Val Asn Gly Ser Gly Arg Ser
385                 390                 395                 400

Val Met Arg Ala Gly Asn Tyr Asp Val Tyr His Cys Val Tyr Cys Asp
                405                 410                 415

Thr Val Asn Lys Cys Arg Thr Cys Thr Arg Arg Ser Gly Ser Asp Thr
            420                 425                 430

Arg Val Asn Gly Thr Arg Lys Gly Gly Ala Ala Met Ser Arg Ala Ala
        435                 440                 445

Ser Ser Gly Val Trp Ser Ala Thr Thr Met Ser
```

450 455

<210> 42
<211> 34
<212> PRT
<213> Rat Uromodulin

<400> 42

Gly Val Gln Ala Ser Val Ser Lys Ala Ala Ser Ser Asn Leu Gly Phe
1 5 10 15

Leu Ser Ile Trp Leu Leu Leu Phe Leu Ser Ala Thr Leu Thr Leu Met
20 25 30

Val His

<210> 43
<211> 34
<212> PRT
<213> Mouse Uromodulin

<400> 43

Gly Val Gln Ala Ser Val Ser Lys Ala Ala Ser Ser Asn Leu Arg Leu
1 5 10 15

Leu Ser Ile Trp Leu Leu Leu Phe Leu Ser Ala Thr Leu Ile Phe Met
20 25 30

Val Gln

<210> 44
<211> 33
<212> PRT
<213> Human Uromodulin

<400> 44

Gly Val Gln Ala Thr Val Ser Arg Ala Phe Ser Ser Leu Gly Leu Leu
1 5 10 15

Lys Val Trp Leu Pro Leu Leu Leu Ser Ala Thr Leu Thr Leu Thr Phe
20 25 30

Gln

<210> 45
<211> 34
<212> PRT

<213> Bovine Uromodulin

<400> 45

Gly Gly Gln Ala Ala Met Ser Arg Ala Ala Pro Ser Ser Leu Gly Leu
1 5 10 15

Leu Gln Val Trp Leu Pro Leu Leu Leu Ser Ala Thr Leu Thr Leu Met
20 25 30

Ser Pro

<210> 46
<211> 42
<212> PRT
<213> Torpedo

<400> 46

Asn Gln Phe Leu Pro Lys Leu Leu Asn Ala Thr Ala Cys Asp Gly Glu
1 5 10 15

Leu Ser Ser Ser Gly Thr Ser Ser Ser Lys Gly Ile Ile Phe Tyr Val
20 25 30

Leu Phe Ser Ile Leu Tyr Leu Ile Phe Tyr
35 40

<210> 47
<211> 42
<212> PRT
<213> Placenta

<400> 47

Thr Ala Cys Asp Leu Ala Pro Pro Ala Gly Thr Thr Asp Ala Ala His
1 5 10 15

Pro Gly Arg Ser Val Val Pro Ala Leu Leu Pro Leu Leu Ala Gly Thr
20 25 30

Leu Leu Leu Leu Glu Thr Ala Thr Ala Pro
35 40

<210> 48
<211> 41
<212> PRT
<213> Decay Accelerating Factor

<400> 48

His Glu Thr Thr Pro Asn Lys Gly Ser Gly Thr Thr Ser Gly Thr Thr
1 5 10 15

Arg Leu Leu Ser Gly His Thr Cys Phe Thr Leu Thr Gly Leu Leu Gly
20 25 30

Thr Leu Val Thr Met Gly Leu Leu Thr
35 40

<210> 49
<211> 35
<212> PRT
<213> T. Brucei

<400> 49

Glu Pro Glu Pro Glu Pro Glu Pro Glu Pro Glu Pro Gly Ala Ala Thr
1 5 10 15

Leu Lys Ser Val Ala Leu Pro Phe Ala Ile Ala Ala Ala Ala Leu Val
20 25 30

Ala Ala Phe
35

<210> 50
<211> 36
<212> PRT
<213> Hamster

<400> 50

Gln Lys Glu Ser Gln Ala Tyr Tyr Asp Gly Arg Arg Ser Ser Ala Val
1 5 10 15

Leu Phe Ser Ser Pro Pro Val Ile Leu Leu Ile Ser Phe Leu Ile Phe
20 25 30

Leu Met Val Gly
35

<210> 51
<211> 44
<212> PRT
<213> Rat

<400> 51

Lys Thr Ile Asn Val Ile Arg Asp Lys Leu Val Lys Cys Gly Gly Ile
1 5 10 15

Ser Leu Leu Val Gln Asn Thr Ser Trp Leu Leu Leu Leu Leu Leu Ser
20 25 30

Leu Ser Phe Leu Gln Ala Thr Asp Phe Ile Ser Leu
35 40

<210> 52
<211> 36
<212> PRT
<213> T. Brucei

<400> 52

Glu Ser Asn Cys Lys Trp Glu Asn Asn Ala Cys Lys Asp Ser Ser Ile
1 5 10 15

Leu Val Thr Lys Lys Phe Ala Leu Thr Val Val Ser Ala Ala Phe Val
20 25 30

Ala Leu Leu Phe
35

<210> 53
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 53
gaagggcccc caagagatcc aagtctcct 29

<210> 54
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 54
gaagggccct cacaagtaag tgcctgtgat 30